

CHAPTER 6. PRETREATMENT TRADING

*Pretreatment includes physical, chemical, and biological processes used by industrial and commercial customers to reduce, eliminate, or alter pollutants in wastewater before its release to publicly owned treatment works (POTWs). **Pretreatment trading** refers to agreements that affect the allocation of pollutant loads among facilities that discharge wastewater to POTWs.*

Introduction

Approximately 1,500 POTWs administer approved local pretreatment programs. Approved states administer local pretreatment programs for an additional 314 plants. Available data suggest that plants with pretreatment programs account for over 80 percent of the total national POTW wastewater flow, even though less than 20 percent of all POTWs operate pretreatment programs.

Unlike other regulatory programs, the concept of trading is not completely new in the pretreatment program. The term “trading” is relatively new. In the pretreatment program, trading is discussed in terms of allocation of local discharge limitations (i.e., local limits), which dictate what the indirect dischargers can send to the POTW. POTWs are required to develop local discharge criteria to protect plant workers, plant operations, receiving water environments, and the quality of the biosolids.

These criteria are called local limits. EPA has designed the local limits development process to facilitate the most appropriate allocation of pollutants as determined by the POTW, including trading, if desired by the POTW (*Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program*, December 1987).

To date, POTWs have preferred the uniform concentration limit allocation approach for local limits. This allocation method results in a single discharge concentration limit for each pollutant that is the same for all users. This method provides POTWs with an allocation vehicle that has minimal burden in both development and implementation and is viewed as an equitable approach. For POTWs, a method with low burden that produces the desired environmental results is often preferable to other methods that are more resource-intensive.

As noted, the uniform concentration limit method does have advantages, but it also has shortcomings. Specifically, it provides allocations to industries that might not even discharge the pollutant in question. Also, the uniform concentration approach does not reflect any differences in dischargers’ ability to reduce pollutants and costs in achieving a uniform limit.

In the future, if standards for water and biosolids quality become more stringent, or if industrial growth places increasing pressure on POTW operations, POTWs might want to consider other allocation methods (mass allocations) for their local limits.

EPA is not aware of any POTWs that have developed formal pretreatment trading programs to date. Some POTWs are, however, implementing methods of

allocating local limits that incorporate certain aspects of trading, as illustrated in the case of Oxford, North Carolina, in Example 6.1.

**EXAMPLE 6.1: PRETREATMENT TRADING
IN THE TOWN OF OXFORD, NORTH
CAROLINA**

Oxford has used an allocation approach similar to trading. After determining the total pollutant loading capacity available, the POTW and industries agree on specific limits for the seven industries involved: three textile mills, a rubber manufacturer, an asphalt roofing manufacturer, a cosmetic manufacturer, and a china manufacturer.

POTWs or states administering local pretreatment programs may choose to allow indirect dischargers (also known as industrial users or IUs) that send their wastes to POTWs to exchange reductions of pollutant loadings. These exchanges should be formalized through the IU permit. In general, where a POTW has an approved pretreatment program and established procedures to allocate and track pollutant loadings *and* agrees to allow pollutant trades, one firm may coordinate with one or more other firms to implement improved controls, rather than reducing in-house loadings. Incentives for trades may include payments between firms for additional reductions.

In all cases, trades are subject to IU permitted pollutant limitations and requirements established by POTWs to protect operations as well as biosolid and water quality. EPA's technology-based (categorical) limits for indirect dischargers must always be met and cannot be traded.

POTWs can implement trading programs at their discretion when developing local limits. EPA and states, however, may require that a POTW develop written procedures and appropriate legal authorities for implementing a trading program. For example, in cases where a POTW has instituted its local limits through a uniform concentration method, the POTW will probably need to change its local limits allocation to a mass allocation to implement trading. This will require a change to their legal authority since most local limits are contained within the POTW's ordinance.

6.1 Regulatory Issues

General pretreatment regulations establish a three-part approach to controlling discharges from nondomestic sources to a POTW:

1. *General prohibitions* forbid discharge of pollutants that cause pass through or interference, and *specific prohibitions* forbid certain discharges of concern, such as those posing fire or explosive hazards, and corrosive, solid, or viscous substances.
2. EPA promulgates categorical Pretreatment Standards, which are national technology-based standards, on an industry-by-industry basis.
3. Individual POTWs develop local limits (as well as Pretreatment Standards) when necessary to ensure compliance with their NPDES permits and biosolids use or disposal standards, and to protect worker health and safety.

Under current regulations, POTWs must develop local pretreatment programs if

they have design flows (combination of all treatment works) exceeding 5 million gallons per day (mgd) and they receive discharges from industrial users that may cause “pass through” or “interference,” or are otherwise subject to pretreatment standards. At the discretion of EPA or state authority, POTWs with design flows less than 5 mgd may also be required to develop programs.

Pass through occurs when pollutants exit POTWs at levels above the limits or in violation of any requirement in their NPDES permits. Interference occurs when pollutants inhibit or disrupt POTW operations, thereby leading to violations of NPDES permits or preventing the use or disposal of biosolids (i.e., sewage sludge) in compliance with statutory requirements.

Trading applies only to allocated local limits. In no case may a categorical industrial user be allowed to discharge pollutants in excess of those limits specified in applicable National Categorical Pretreatment Standards promulgated by EPA.

The National Pretreatment Program provides POTWs with considerable flexibility in establishing local limits. EPA has established guidance to assist the POTWs in development of local limits (see introduction to this chapter). In addition, many EPA Regional offices and states have developed more specific guidance on development and implementation of local limits.

The legal framework for the pretreatment program splits responsibility for regulating industrial users across federal, state, and local authorities. In communities where POTWs have approved local pretreatment

programs, the POTWs are responsible for direct regulation and oversight of industrial user compliance and enforcement.

Where a POTW does not have an approved program, industrial users must still comply with the general and specific prohibitions discussed earlier, and if an industrial user is subject to categorical standards, it must comply with the standards and report its compliance status to EPA or the state twice per year. In general, pollutant trading would be possible only in the cases where the state or EPA requires the POTW to establish local limits in addition to other legal authorities that may be required to support a trading program.

Approved pretreatment programs interested in developing and implementing trading programs will also need to review applicable local, state, and federal requirements to determine whether changes are needed to the approved program. In addition, POTWs will need to ensure that results of trades do not violate the terms of their NPDES permits or approved pretreatment programs, or otherwise interfere with POTW operations.

Some regulatory issues are of less concern for pretreatment trading than for point source trading. CWA anti-backsliding requirements and anti-degradation policy do not apply to IU permits issued by POTWs to their industrial users. As long as the net effects of trades allow POTWs to meet their NPDES permit limits and conform to parameters set out in pretreatment programs, these policies will not affect pretreatment trading.

6.2 Economic Issues

Pretreatment trading can reduce the costs of pollution abatement while promoting improvements in environmental quality. As explained below, trading also can encourage investment in new control technologies and local economic development.

Potential Cost Savings

Development of a trading program may be undertaken at any POTW where indirect dischargers face differing costs for pollutant reductions and the POTW feels implementing a trading program might be beneficial to the pretreatment program. Industrial users choosing pollutant trading may need to install flow monitoring equipment, where none exists, and monitor facility flows for determining compliance with IU permits.

Cost savings could be significant in cases where dischargers would need to purchase and install expensive new treatment equipment. For example, one industrial user might need to install new treatment equipment to reduce its pollutant loadings, while another might be able to simply increase its use of existing treatment capacity. In this case, the first firm (that would otherwise need to install new equipment) could save money by negotiating with the second firm to increase its level of treatment. If trading allocations allow some industrial users to avoid large capital investments, substantial savings might result.

Not surprisingly, incentives for engaging in trades will be larger in cases where control costs are a significant proportion of a

firm's total operating expenditures, including costs of manufacturing and distributing products. In such cases, firms will be highly motivated to seek opportunities for reducing pollution abatement costs. Firms for which pollution control costs are less significant may choose to focus their attention on other types of concerns.

Economic incentives for trading may be weaker in cases where industrial users are direct competitors in the same industry. Such dischargers might be reluctant to engage in trades if the financial benefits would provide a competitive advantage to other firms. Trading might still be desirable in these cases as long as it benefits all participating dischargers.

Transaction Costs

Transaction costs include costs of revising POTW legal authorities and IU permits, identifying opportunities for trading, negotiating trades, and completing any necessary analysis and reporting. These costs need to be accounted for in developing and implementing trades.

Trading primarily impacts the *way* that allowable pollutant loads are allocated to industrial users. When pollutant allocations (or re-allocations to reflect trades) are determined, POTWs must write the results into permits or other control mechanisms, much as discharge limits are imposed under the current program. Changes in approved pretreatment programs to accommodate trading would be expected to necessitate a program modification. Monitoring and enforcement activities may remain substantially unchanged.

Technological Innovation

Because trading may provide incentives for developing innovative technologies, it may encourage continued improvement in technology performance and/or reductions in control costs over time, as new technologies are developed and implemented. Firms could benefit by developing more cost-effective control technologies, then agreeing to increase their level of treatment (or pollution prevention) in exchange for payments from other firms. As more firms become interested in trading, markets for such technologies are likely to expand, and firms could work cooperatively to develop pollution prevention techniques or new treatment processes.

Local Economic Development

The current regulations and guidance allow the POTW to change to an alternative allocation method under selected circumstances: in cases where POTWs use a uniform allocation method for local limits implementation and the uniform allocation makes it appear that all of their capacity for accepting industrial pollutants has been exhausted; or where POTWs may want to increase surplus capacity.

The change in allocation may require a modification to the existing approved program, requiring a minor modification of the NPDES permit and public notice of the change. The choice of local limits allocation directly affects the allowable loadings from each contributing source. In many cases, during development of local limits the POTW builds in a safety factor and growth factor, allowing industrial

growth without having to change existing allocations.

Local limits allocation, including trading, provides opportunities for POTWs to accommodate new indirect dischargers or facility expansions, even in cases where POTWs must reduce their own discharges or have little available capacity. This capability may foster local economic growth. Likewise, the local economy benefits if trading allows industries to reduce their pollution control costs, freeing resources to finance new capital investments.

For example, pollutant loads from a new or expanding firm can be accommodated by using the existing load allocated to the growth factor or allowing the firm to negotiate with current users for a share of the total industrial user allocation, with cooperation and prior approval by the local pretreatment program. The new or expanded firm could either compensate current users for reducing their discharges or develop more cost-effective treatment technologies and engage in trades to reduce the burdens on existing users.

Trading can also relieve financial pressures on individual firms by allowing them to pay or otherwise arrange with others for further pollution reduction rather than purchasing control technology. In these cases, trading may free funds for other types of investments, such as plant expansion or additional employment.

6.3 Data-Related Issues

To implement pretreatment trading programs, dischargers and POTWs need information characterizing opportunities for and effects of trades. Loading

information for the pollutant(s) of concern, general wastestream characteristics, and treatment options and cost information are particularly important for developing pretreatment trading programs.

Pollutant Loadings

Local limits are developed to protect against pass through and interference (including adverse impacts on biosolids disposal), including the specific prohibitions specified at 40 CFR 403.5(b). A POTW will determine the Maximum Allowable Headwork Loading (MAHL) it may receive for specific pollutants, while protecting against pass through and interference. POTWs will subtract from the MAHL such things as reserved mass for expansion and safety from slug loads, residential and non-IU loadings, and other factors.

The resultant pollutant loading, expressed generally as pounds per day, is then the Maximum Allowable Industrial Loading (MAIL). This MAIL is the total daily mass that a POTW can accept from all permitted IUs and ensure the POTW is protecting against pass through and interference. POTWs wishing to develop a trading program will adopt the MAILs in its legal authority (often an ordinance or other regulation) as part of its local limits. The POTW will also develop a procedure to allocate the MAILs to its IUs.

As mentioned earlier, most approved pretreatment programs go one step farther when adopting local limits. They divide the MAIL by the total industrial flow to get a uniform concentration local limit for each pollutant of concern. This uniform concentration local limit is then adopted and applied to each IU.

Detailed information on pollutant loadings is needed to identify opportunities for trades and to determine whether a particular trade will result in a reallocation of loads through the IU permits, while ensuring that the MAIL is not exceeded.

Much of the information on pollutant loading is already available to the POTW from various sources.

- In cases where POTWs currently express local discharge limits as mass loadings, the current total permitted loading is available in the IU permits or other control mechanisms used by POTWs.
- In cases where POTWs express limits as concentrations, the POTW often collects information on IU wastewater flows and can convert the permit limits to mass loadings. For example, if a discharger's limit for zinc is 1.5 mg/l and its flow is 10,000 gallons per day, its permitted daily loadings are $1.5 \text{ mg/l} \times 0.010 \text{ mgd} \times 8.34 = 0.125 \text{ lb}$ of zinc per day. The POTW would perform this evaluation for all IUs that are permitted to discharge the pollutant(s) in question. The sum of these daily loadings would be compared to the MAIL that forms the basis for the local limits, to ensure that the MAIL is not exceeded. The POTW would generally be required to adopt the MAIL into its legal authorities for each pollutant for which trading is implemented.

When firms engaging in trades discharge the same pollutants, comparisons are straightforward; loadings can be summed and compared to the POTW MAIL. When industrial users have more than one pollutant involved in a potential trade,

POTWs also will need to consider trading impacts on total loadings of other pollutants received.

Once trades have been implemented, information on loadings will be collected through IU permit (or other control mechanism) reporting requirements. Industrial users also provide reports or notifications in cases where self-monitoring indicates violations of applicable pretreatment standards or requirements, and report any substantial change in the volume or character of pollutants in their discharge.

Pollution Reduction Options and Costs

To determine whether opportunities for trading exist, individual industrial dischargers will, at a minimum, need information on whether their POTW has a trading program or is willing to develop such a program, their pollutant loadings, pollution reduction costs, and the price at which pollution reduction credits can be bought from or sold to other dischargers.

General information on pollution reduction costs also will be useful to POTWs considering whether an investment of management resources in promoting trading will be worthwhile. For example, if available information on a POTW's industrial users indicates that administrative costs to the POTW are substantially less than savings to the industrial users, trading is likely to be beneficial and a POTW might be willing to cooperatively invest the resources.

Dischargers might be interested in detailed information on pollution reduction options and costs. This information would enable them to determine costs they would incur

for increased pollution reduction (especially in cases where new technology must be implemented). It also would help develop their strategy for negotiating with potential trading partners.

General information on costs, applicability, and effectiveness of alternative pollution reduction methods is available from EPA effluent guideline development documents and similar sources. As noted in Chapter 5, however, these sources are designed to provide rough comparisons of costs and effectiveness of treatment methods identified during development of the applicable standards.

To avoid mischaracterizing the cost-effectiveness of pollution reduction options available to them, indirect dischargers can complete more detailed, facility-specific assessments before proposing a trade. In conducting such assessments, indirect dischargers are encouraged to consider pollution prevention practices prior to end-of-pipe treatment. In many situations, pollution prevention can be more cost-effective than end-of-pipe treatment in achieving pollution reduction goals.

As a result, facilities that explore pollution prevention opportunities will be better positioned to exceed pollution reduction performance standards requirements and to offer pollution reduction credits in trades with other dischargers. In addition, many POTWs may require pollution prevention opportunities to be explored prior to a request for pollutant trading.

6.4 Technical and Scientific Issues

POTWs interested in implementing trading programs may face two types of technical issues: the development and adoption of

mass-based limits, and implementation of a program to permit and track pollutant loadings.

Mass- vs. Concentration-Based Limits

POTWs (or states operating pretreatment programs in lieu of approved local programs) develop local limits based on evaluation of local POTW operations and guidance provided by EPA, as explained in Section 6.3. Development of local limits may be based on a range of methods:

- *Uniform concentration limits for all industrial users*—For each pollutant, the maximum allowable industrial loading to the POTW is divided by the total flow from *all* industrial users.
- *Concentration limits based on industrial contributory flow*—This method is similar to the uniform concentration limit allocation except that the flow from only those users that actually have the pollutant in their raw wastewater at greater than background levels is used to derive a concentration limit for the pollutant.
- *Mass proportion for each pollutant*—The maximum allowable industrial loading to the POTW is allocated individually among each IU in proportion to the IU's current loading. Mass limits (MAILs) are adopted for pollutants, and portions of the MAILs are allocated to the IUs.
- *Selected industrial reduction*—The POTW selects the pollutant loading reductions that each IU will be required to accomplish.

POTWs using the mass-proportion method, or other methods that specify mass loadings limits rather than pollutant concentration limits, will find it easier to implement trading programs than those using other methods. These POTWs will not need to convert concentrations into loadings (as discussed in the previous section) to evaluate the impacts of trades. In addition, POTWs using mass-based limits are already accustomed to incorporating this type of limit into their permitting, monitoring, and enforcement procedures.

POTWs currently using other approaches generally will be required to adopt mass-based limits to facilitate implementation of trading programs.

Unit of Exchange

POTWs can define units to be traded in various ways, for example, pounds per day of a particular pollutant. Regardless of whether trading is implemented, units used to develop local limits have at least two dimensions: the time period covered (e.g., day) and the unit of mass (e.g., kilograms or pounds). In addition, the unit may be expressed as an average, a maximum, or both.

Another issue to consider is whether to include batch dischargers in a trading program. Including batch dischargers increases opportunities for trades. If batch dischargers are included, a trading program needs to ensure that combined discharges do not exceed a POTW's peak capacity. The timing of discharges may be particularly important.

6.5 Institutional Issues

Because the local limits development process already provides an institutional framework for pretreatment trading, relatively few institutional issues need to be addressed to implement trading programs. Issues to be considered include whether a POTW wants to develop a trading program, what changes to a POTW legal authorities are necessary (if any), what procedures must be developed for implementation, and availability of POTW resources to institute a trading program.

Some POTWs may not need to alter their current procedures substantially. Once local limits are adopted and procedural and resource issues addressed, POTWs could encourage dischargers to seek out trading opportunities, or could act as brokers, bringing together potential trading partners. POTWs would then review results of negotiations and incorporate them into permits and individual control mechanisms where appropriate.

A trading program that includes an established administrative structure will require more extensive development efforts. Such programs could include designating certain officials or organizations as responsible for encouraging trading and developing standardized procedures. A key consideration will be minimizing the costs of program administration and engaging in transactions so that such costs do not outweigh the pollution reduction cost savings that trading would provide.

To minimize transaction costs, criteria for approving trades, including relevant data and analysis submitted by dischargers interested in trading, could be specified in

advance. This would decrease uncertainty and clarify responsibilities. POTWs are likely to maintain primary responsibility for oversight of program operations (subject to federal, state, and local government approval, as needed); ongoing involvement of other interested parties generally will be desirable.

Stakeholder Participation and Support

Trading programs are most likely to be successful if all stakeholders are involved in and committed to development of the program. Stakeholders include POTWs and industrial users, as well as EPA and the state agencies responsible for the pretreatment program; elected officials; federal, state and local agency staff; the general public; and environmental organizations.

Because POTWs are generally operated by local government agencies, they are likely to share community interest in environmental protection and economic development. As a result, they may support trading programs as a method of expediting compliance with pollution reduction requirements and reducing the potential corresponding costs. Industrial users may find trading programs desirable if they can reduce their pollution reduction costs by amounts that exceed any costs associated with participating in trading programs, particularly if these savings are a significant proportion of their total operating costs and can be gained without providing disproportionate benefits to their competitors.

Other interested groups may be supportive if they view programs as maintaining or improving environmental quality while providing economic benefits to local areas.

POTWs can encourage trading by providing information on topics of interest to each participating group. For example, information on environmental benefits and cost savings could be developed for review by industry and local community leaders, as well as all other stakeholders.

6.6 Administrative Issues

Administration of a pretreatment program that incorporates trading includes at least three primary activities: (1) the initial development of local limits and resultant allocation to the IUs through permits (2) review and approval of the trade by the POTW, and (3) reallocation of pollutant loadings (IU permit modification or reissuance). These components are discussed below.

Initial Allocation

Under a typical local limits development process, as discussed earlier, POTWs identify pollutants of concern, develop loadings to protect the POTW, incorporate these loadings into their legal authorities, and include appropriate discharge limits based on the loadings in IU permits.

Incorporation of pollutant limits into permits (whether mass or uniform concentration) can have a significant effect on industrial users, determining relative bargaining power when trading occurs and costs of required controls if dischargers cannot find opportunities for trades. The perceived equity of the initial allocation can also affect program implementation, particularly where industry protests the results.

Reallocation Through Trades

In a trading program, once an initial allocation is made (i.e., an IU permit is issued), industrial users could negotiate exchanges in pollutant reductions among themselves. These exchanges may be trades directly negotiated between two dischargers, or may include the development of a more formal market for buying and selling discharge allowances.

In the latter case, industrial users with high pollution reduction costs could acquire additional pollution discharge credits, while those with lower costs would be compensated for removing larger quantities of pollutants through the sale of their credits or through other forms of compensation. As noted earlier, such compensation need not be monetary; other types of mutually beneficial agreements may be reached.

Once exchange units are established, POTWs may require trading ratios (termed "offset ratios") greater than one-to-one (e.g., 1.25:1) to encourage further reductions in pollutant loadings. While such ratios might be desirable, they should be applied carefully to avoid constraining opportunities for trades.

Timing, Frequency, and Duration

Another issue in developing trading programs is establishing conditions governing the timing, frequency, and duration of trades. Frequent trades with short durations may be difficult for POTWs to track and control (and allocate sufficient resources), while infrequent trades with long durations may inhibit desirable changes from initial allocations and hence decrease benefits of trading.

Trading could be allowed on an ongoing basis. If trades occur too frequently or on an unpredictable schedule, however, POTWs may need to devote substantial resources to reviewing the effects of the trades and may find it difficult to track constantly changing allocations.

Conversely, if trades are allowed infrequently, industrial users will not be able to accrue the full benefits of trading. They may not be able to exchange allowances with other industrial users to reflect changes in pollution reduction costs or needs (resulting from changes in production processes, costs, or the scope of operations) as they occur.

One option is to allow trading whenever permits or other individual control mechanisms of participating industrial users are scheduled for renewal. In cases where POTWs renew permits or individual control mechanisms on a staggered basis, trading could be encouraged by grouping industrial users according to pollutants discharged, and addressing pollution reduction conditions for all members of a group simultaneously. As with other options, any change in trading would be allowed only after POTW approval and incorporation of the resulting allocation into a revised permit or other individual control mechanism.

Incorporating trading into standard review and renewal cycles provides the least disruption of current operations. It also reduces burdens on POTW staff, who can review implications of proposed trades at the same time they are reviewing other industrial user information. Time frames within which trading is allowed can best be determined through discussions between POTWs and participating industrial users.

Federal regulations limit duration of permits or individual control mechanisms to a maximum of 5 years. Therefore, incorporation of a trade into permits or other individual control mechanisms will necessitate renewing trading agreements at least once every 5 years. In addition, POTWs will be expected to retain authority to reopen and revise permits or other individual control mechanisms that incorporate trades. Such flexibility may be needed to respond to future changes in POTW operations or NPDES permit requirements.

It is important to realize that trading that results in less stringent local limits for one or more of a POTW's industrial users may be a substantial program modification, and therefore would require approval of EPA or the state authority. This may not be the case where the Approval Authority has approved the MAIL and the reallocation is within the MAIL. It may be best to have trading activity occur along with the local limit reevaluation process, which is required at least every 5 years in connection with the POTW's NPDES permit reissuance.

The duration of trading agreements could be determined by the trading partners and provided for approval to the POTW in advance. Dischargers may not be willing to engage in trades if the duration of agreements is too short, because of negotiation costs, uncertainty inherent in a need to renegotiate, and the risk that an investment in improved pollution reduction methods would be lost if a trade were discontinued after only a short period. In general, if POTWs are willing to allow trading agreements to remain in place for longer periods of time, it is more likely that trades will occur, particularly in cases

where industrial users are investing in treatment equipment with relatively higher costs and long life spans.

Review and Approval of Trades

Once a POTW is able to consider trades and the industrial users agree to a trade, the next step is POTW review and approval. This review may be accomplished through the same procedures used in the existing permitting processes. Reviews will need to consider issues related to protecting POTWs from interference and ensuring that standards for POTW effluent and biosolids quality are met (i.e., MAILs are not exceeded). Once trades are approved, they must be incorporated into industrial users* permits or other control mechanisms to ensure all applicable limits and monitoring requirements are fully enforceable.

The following checklist provides examples of the types of issues a POTW should consider in determining whether and how to implement a trading program. The more positive responses, the more likely the trading program will be successful.

6.7 Accountability and Enforcement

POTWs have developed mechanisms to ensure that relevant pretreatment standards are met, regardless of whether trading is implemented. The principal mechanism used by POTWs to ensure the enforceability of local limits is the IU permit. All changes to allocated pollutant loadings and monitoring and reporting requirements must be enforceable by the POTW's pretreatment program. Therefore, whenever a POTW changes the allocation of pollutant loadings between IUs, such changes must be adequately reflected in the relevant IU permit. This will ensure the continued enforceability of local limits, as well as provide detailed information to each IU on what it is allowed to discharge.

6.8 Worksheet/Checklist

WORKSHEET FOR POTWS TO EVALUATE POTENTIAL FOR PRETREATMENT TRADING

Legal and Regulatory Conditions	
<i>General:</i>	
C Is pretreatment trading implemented within the context of the National Categorical Pretreatment Standards and NPDES permits?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
<i>Specific:</i>	
C Are local POTW standards more stringent than National Categorical Pretreatment Standards?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
C Do the results of pretreatment trading comply with conditions within the NPDES permits of POTWs?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
Economic Conditions	
<i>General:</i>	
C Can dischargers to POTWs save or make money by trading (i.e., are there economic incentives to trade)?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
<i>Specific:</i>	
C Do total marginal costs for pollution reduction, which include direct marginal costs and transaction costs, differ among dischargers?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
C Do cost differentials among dischargers allow one discharger to reduce pollution more cheaply than another?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
C Do cost savings from trading outweigh the risks that dischargers face under trading schemes?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
C Is there a sufficient supply of pollution reduction for sale, and a reasonable demand to buy reduction credits?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
C Are competitive pressures among dischargers subdued enough to allow trades?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
Data Availability Conditions	
<i>General:</i>	
C Are the data necessary to implement a trading program available or estimable?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
<i>Specific:</i>	
C Are there enough data to understand pollution quantities and flows to the POTW?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
C If pollution limits are expressed in permits and ordinances as concentrations, are data on wastewater flow available to convert limits to loadings?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
C Do industrial users of POTWs submit at least two compliance reports per year, which provide information on loading?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>
C Can industrial users estimate costs for pollution control and transaction costs that they would have to pay to conduct trades?	<div style="border: 1px solid black; padding: 2px; display: inline-block;">yes</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">no</div>

Administrative and Institutional Conditions	
<i>General:</i>	
C Are governmental authorities and potential trading participants capable of administering a trading program? (If no , do not proceed.)	yes no
C Does the POTW have an approved pretreatment program? (If no , stop and contact appropriate state/EPA Regional office.)	yes no
<i>Specific:</i>	
C Has the POTW developed and adopted technically based local limits and have the local limits been publicly noticed and approved by the approval authority? (If no , do not proceed.)	yes no
C Have the technically based local limits been allocated to industrial users?	yes no
C Has the POTW developed the necessary legal authorities and implementation procedures to implement trading?	yes no
C Does the POTW have enforcement mechanisms in place to ensure pretreatment trades (discharge limits) are being complied with?	yes no
C Does the POTW currently have adequate resources to expend on administration of the trade? (If no , do not proceed.)	yes no
C Is the economic benefit to the POTW, community, and industrial user greater than the transactional costs of implementing the trade?	yes no
C Are the data required from the industrial user(s) available or can the data be obtained?	yes no